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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,312	06/08/2006	Takayuki Tsukizawa	36856.1439	5223

54066 7590 05/07/2009  
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EXAMINER
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PHAN, THIEM D

ART UNIT	PAPER NUMBER
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3729

NOTIFICATION DATE	DELIVERY MODE
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05/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JKEATING@KBIPLAW.COM  
uspto@kbiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,312	<b>Applicant(s)</b> TSUKIZAWA ET AL.	
	<b>Examiner</b> THIEM PHAN	<b>Art Unit</b> 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) 23-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 16-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :6/08/06, 4/24/07, 9/18/07 & 2/27/09.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicants' election without traverse of Species I-A, Claims 16-22, filed on 1/21/09, is acknowledged.

The Restriction mailed on 1/14/09 has been carefully reviewed and is held to be proper. Moreover applicants did not distinctly and specifically point out any error in the Restriction Requirement. Accordingly, Claims 23-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups or Species.

The Restriction filed on 1/14/09 is hereby **made Final**.

Applicants are required to cancel the nonelected claims (23-33) or take other appropriate action.

An Office Action on the merits of Claims 16-22 now follows.

### ***Title***

2. The following title is suggested: "Method for manufacturing a chip electronic component-mounted ceramic substrate".

### ***Abstract***

3. The abstract of the disclosure is objected to because the elected, claimed invention is about the Method Claims. Therefore, an amended abstract to which the elected invention pertains is necessary to clarify the claimed invention. See MPEP § 608.01(b).

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Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto et al (US 6,228,196).

**Regarding claim 16**, Sakamoto et al teach a method of producing a multilayer ceramic substrate, comprising the steps of:

- mounting a chip electronic component (Fig. 1, items 10-12) including a ceramic sintered compact (Fig. 1, 1) defining an element assembly and terminal electrodes (Fig. 3, 19a) on a ceramic green body (1g) having conductors (39, 46, 14, 17) thereon such that the terminal electrodes are brought into contact with the corresponding conductors; and
- firing the ceramic green body (Col. 15, lines 14-20) having the chip electronic component so as to integrate the conductors on the ceramic green body with the corresponding terminal electrodes of the chip electronic component by sintering.

**Regarding claim 17**, Sakamoto et al teach that the ceramic green body (Fig. 3, 1g) is defined by a ceramic green sheet, and a green ceramic stack formed by stacking the ceramic green sheet having the chip electronic component and other ceramic green sheets is fired.

**Regarding claim 18**, Sakamoto et al further teach the step of:

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- forming a constraining layer (Fig. 3, 48) on at least one of an uppermost layer (2g) and an internal layer (4g) of the green ceramic stack (1g); wherein
- the constraining layer primarily includes a sintering-resistant powder (Col. 15, lines 11-20) that is not substantially sintered at the sintering temperature of the ceramic green sheets.

**Regarding claim 19**, Sakamoto et al teach that the constraining layer (Fig. 3, 48) is a sheet including the sintering-resistant powder and an organic binder (Col. 15, lines 20-25).

**Regarding claim 20**, Sakamoto et al teach that the sheet of the constraining layer (Fig. 3, 48) is formed on the uppermost layer of the green ceramic stack, and the method further comprises the step of pressure-bonding (Col. 15, lines 48-53) the constraining layer to press the chip electronic component into the ceramic green sheet.

**Regarding claim 21**, Sakamoto et al teach that the green ceramic stack having the constraining layer (Fig. 3, 48) is fired (Col. 15, lines 14-20) with a pressure of about 1 MPa being applied thereto (Col. 15, lines 56-64).

**Regarding claim 22**, Sakamoto et al teach that the constraining layer (Fig. 3, 48) is formed of a green compact of the sintering-resistant powder (Col. 15, lines 20-25) on the uppermost surface of the green ceramic stack.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M & Tu, 6AM - 2PM, and W & Th, 9AM – 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phan Thiem/  
Primary Examiner, Art Unit 3729

May 7, 2009